interact Newsletter

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http://interact.nps.navy.mil

Who we are

interact is a research group focused on issues related to the interaction of people and computing systems; building systems with people in mind. We plan to write to you every month to give you the latest information on our research projects and how you might become involved. Please drop by our web site or contact us for more information.

Project Updates

With this first issue, we present a quick outline of the research we are presently working on. Please visit our site for more information on any of these projects:

* Full Hand Interaction
  Sponsor: Defense Advanced Research Projects Agency

* Navigating Large-Scale Virtual Spaces
  Sponsor: Office of Naval Research

* Spatialized Sound in Air Training Systems
  Sponsor: Naval Air Command

* Human Locomotion & Exertion in Simulation Systems

* Perceptual Plasticity in Virtual Environments

* Biofeedback Issues in Interface Design and Implementation

* Nomadic Computing and Wireless Systems Issues

Thesis Topics

At present, there are a number of graduate students working on topics related to the above areas. If you are interested in working on a thesis in one of these areas, or in any other area of human-computer interaction which may be of interest to you, please visit the website and get in touch with Dr. Rudy Darken <darken@cs.nps.navy.mil> or Dr. Kip Krebs <wkrebs@nps.navy.mil>. Each month, we will include a few thesis topics in this newsletter of special interest.

1. Integration of a Spatial Acoustic Renderer with a DIS simulator.
What is the role of sound in training systems? Are systems that include spatial sound cues preferable to those that do not? This topic includes the integration of a spatial sound renderer (an Acoustatron) with TOPSCENE (an air mission planner) and a training effectiveness evaluation of this system. Contact Darken.

2. A Study of Map Usage in Virtual Environments
We know that maps are powerful tools for navigation tasks in the real world. However, we do not understand how they are best used in virtual worlds. Depending on the specific task, how should maps be represented and used for optimal efficiency? This topic involves the construction of several large virtual worlds and a performance evaluation of different forms of maps on each. Contact Darken.

Course Offerings

Spring 1997
CS4473 Virtual Worlds and Simulation Systems (3-2)
Instructor: Darken
Prerequisites: none
This course will include a survey of virtual environment technology, from the hardware it entails, to applications and training systems. We will discuss methods of system construction and the strengths and limitations of different I/O devices and interaction techniques. Our objective will be to investigate and study the state of the art in virtual environments;

- What problems have we tried to solve thus far?
- Who's problems have we tried to solve thus far?
- Are these tasks and users suitable to this solution?
- How do we know a "training" system actually trains what it's supposed to?
- Are there any applications which have proven the value of the technology?
- What makes one system or technique better than another?

The course will be conducted as a seminar. Students will read current research literature and will either write a survey paper or implement a prototype system and evaluate it.